Risk

Investment funds would magnify a liquidity crisis – BoE

Bank of England’s first stress simulation suggests corporate spreads would gap 41bp on 1% redemptions

Drying up: redemptions induce more fund investors to pull their money out

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Academics have welcomed the Bank of England’s (BoE) first stress simulation of a redemption run in European investment funds, applauding its introduction of **endogenous risk** themes to the policy debate. Some critics, however, feel the model could go further.

The BoE introduced the simulation to work out whether the funds absorb or exacerbate financial shocks.

"The Bank of England is doing state-of-the-art research, ahead of its peers in how they think about this problem," says Jon Danielsson, director of the Systemic Risk Centre at the London School of Economics. "This is something that has been **discussed in the research community for a long time**. This is recognition among the policy authorities that they are thinking about this very difficult problem."

The focus on endogenous risk is seen as a sign that central banks are moving on from stress tests on individual investment banks to thinking about systemic risk generated by the interaction of funds, banks, dealers and investors.

The model simulates the impact of fund redemptions on European investment-grade corporate bond markets, with feedback loops as withdrawals trigger asset sales and price falls induce more fund investors to pull their money out.

The bank's model suggests if fund investors pulled out 1% of their total net assets in the first week of a stress scenario, the liquidity component of corporate bond spreads would jump 41 basis points.

In October 2008, weekly fund withdrawals amounted to 1% of total net assets and corporate bond spreads widened by about 25bp due to liquidity conditions, the BoE estimates.

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> **Didier Sornette, Swiss Finance Institute**

The worsening of liquidity conditions in the model cannot easily be ascribed to shrinking dealer capacity or over-regulation of banks, as the bank also modelled the effects of a 1% redemption with a smaller fund industry.

Keeping all else constant, but shrinking the size of the fund industry to 2008 levels, the bank modelled that a 1% weekly redemption would cause spreads to rise less than 20bp.

Global assets under management have risen by two thirds between 2008 and 2015, and euro area open-ended funds – most of which offer daily redemptions to investors – have seen their assets grow 150% to some €10 trillion ($11 trillion) over the same period.

Didier Sornette

Didier Sornette, professor at the Swiss Finance Institute, thinks the size of the open-ended fund industry has become a problem. “Daily redemption… obliges book-to-market valuation and is procyclical in times of stress, aggravating potentially negative spirals of falling prices,” he says.

Alex Brazier, executive director of financial stability at the BoE, says in the introduction to the paper he cannot rule out the risk of market dysfunction, which could be caused by fund redemptions one third higher than 2008, calling this “an unlikely but not impossible event”.

Were investors to withdraw 1.3% of total net assets, resulting asset sales would cause spreads to jump up to 70bp, and the bond market would reach “breaking point” – this is the point when dealers reach their capacity limits and sales take place at “highly dislocated prices”, Brazier says.

Economists in the field differ over the size of predicted losses, but applaud the BoE for publishing a framework for a macroprudential stress simulation of the financial system.

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> **Michael Howell, CrossBorder Capital**

London School of Economics’ Danielsson sees the simulation as a concession that bank stress-testing is not sufficient when it comes to financial stability. “What is missing in [bank stress tests] is that if a shock hits HSBC, it also hits Barclays and Goldman Sachs and the Bank of China, and each bank will react to the reaction of other banks. That is not recognised within the current stress-testing frameworks,” he says.

He urges the BoE to broaden its research out to central banks, hedge funds, pension funds and the rest of the financial system, and to expand its study to cover global markets.

Michael Howell, founder of CrossBorder Capital, which investigates the effects of liquidity on international capital flows, thinks the research is too optimistic.

“The European credit market is new, illiquid, not practically stress-tested and not adequately researched. I cannot recall reading in the report anything about the assumed credit quality of the market. This is clearly key. In a panic, knowing which are good and bad securities will be tough since everything could look like 'junk'," he says.

He urges the bank to look into lower-quality European corporate bonds, where he believes weakness might point to a jump in spreads five times the size of that modelled, given 1% weekly fund redemptions.

Sornette says the results look reasonable, but urges the BoE to model the effects of a greater than 1% negative fund return.

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"My main criticism is they might have been a bit conservative by just reporting the result of a 1% loss… From a lot of evidence in previous works, we could infer that a larger loss would have much more dramatic consequences that would not scale linearly," he says.

He also urges the bank to simulate a stress scenario on exchange-traded funds, which have seen similarly high growth since 2008. "ETFs are on my personal radar as one of the engines of the next systemic crises," he says.

The bank has made a number of simplifying assumptions in its stress simulation. It has focused on open-ended funds and assumed hedge funds act as opportunistic liquidity providers subject to funding constraints. It also does not model the behaviour of pension funds and insurers, which will be the subject of a future agent-based stress simulation.

However, a previous New York Fed research paper in 2013, entitled *Did liquidity providers become liquidity seekers?*, suggests hedge funds may not step in to provide liquidity in times of stress.

Constant rate assumption

Moreover, the BoE assumes institutional investors also step in to buy corporate bonds from dealers at a constant rate in stressed conditions. Evidence from the last quarter of 2008 suggests institutions halved their rate of asset purchases from dealers. Another BoE paper published this month, entitled *The impact of Solvency II regulations on life insurers' investment behaviour*, suggests Solvency II's risk margin induces insurers to switch to safer assets when interest rates are low.

The bank is also running simulations using different parameters and assumptions. In its original model, it assumes funds disproportionately sell cash to meet redemptions. In another model, it assumes equity funds sell equities too, as is consistent with evidence. The BoE also simulates the known phenomenon of cash hoarding, whereby funds hold cash in anticipation of future redemptions.

The model also runs different simulations of dealer appetite for providing liquidity. The paper notes that not all dealers, particularly those in distress, will have been net buyers of assets. Different assumptions change the bond market's breaking point to between a 0.9% weekly redemption and 2.4%.

The varying assumptions put the spike in corporate bond spreads between 27 basis points and 63 basis points for a 1% weekly redemption.

The BoE says it is too early for policy conclusions, but it will use the analysis to inform its macroprudential regulation of asset management and non-banking activities – and the banking sector. More volatile markets, it states, would warrant greater resilience in the banking system.

Systemic risk of investment funds

In January the Financial Stability Board (FSB) urged national regulators to conduct system-wide stress tests of asset managers as part of its proposals to address the liquidity mismatch in funds.

The FSB urged regulators to collect more information on the liquidity of open-ended funds, often daily redemption funds, and to allow swing pricing and other such redemption fees in stressed conditions. It also warned the high leverage of funds could exacerbate any cycle of withdrawals, asset sales and resulting price spirals.

The US Securities and Exchange Commission (SEC) published in October last year a new framework to allow swing pricing and limit the liquidity mismatch of funds, whereby funds have to hold a certain amount of highly liquid assets. Its proposed rules in 2015 intended to put a cap on fund leverage and their use of derivatives, but the rules were never finalised by the SEC's outgoing chair Mary Jo White.

The UK's Financial Conduct Authority (FCA) has yet to produce any reforms limiting fund liquidity or leverage since the financial crisis. It published a review into funds' liquidity management in February 2016 at the request of the Bank of England's (BoE) financial policy committee, which updated its advice to funds on good risk management practice.

The FCA also launched a review into open-ended funds holding illiquid assets in February, the consultation to which closed in May. It followed the BoE's decision to **gate** several open-ended property funds after redemptions succeeding the UK's vote to leave the European Union.